

## ABSTRACT

A switching hub architecture and index-shared packet transfer method thereof are proposed, which allow a switching hub to perform a port-to-port packet transfer procedure, a port-to-microprocessor packet transfer procedure, and a microprocessor-to-port packet transfer procedure in an index-shared manner that can help enhance packet transfer efficiency. The proposed switching hub architecture and index-shared packet transfer method thereof is characterized in that the embedded packet-switching control unit and microprocessor are both capable of retrieving an index from the same packet index buffer that is pointed to an unoccupied packet buffer area in the packet buffer memory. This index-shared scheme allows the port-to-port packet transfer procedure, the port-to-microprocessor packet transfer procedure, and the microprocessor-to-port packet transfer procedure to be carried out more efficiently than prior art.